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Reply to Office Action of March 24, 2004

03/24/2004
05/24/2004

REMARKS

In the Office Action dated March 24, 2004, claims 1 and 3-48 were rejected under 35 U.S.C. § 103 over U.S. Patent No. 6,430,556 (Goldberg). Applicant respectfully submits that the claims are not obvious over Goldberg.

Claim 1 recites a method that comprises presenting a user interface in a test system, and receiving user selection through the user interface pertaining to environment information of a target database system to extract. The Office Action cited to column 6, lines 54-57, and the GUI 302 of Goldberg as teaching the receiving user selection act of claim 1. The cited column 6 passage describes using a GUI 302 to aid the user in formulating a query which is consistent with a database schema. Also, Goldberg describes a query object generator tool that uses database schema access object 316 for obtaining database schema from database 300. Goldberg, 6:51-54. To assist a user in writing SQL language queries, the database schema access object retrieves and displays schema of the underlying database to the developer. Goldberg, 6:21-28. Thus, as also noted by in the Office Action, what Goldberg teaches is use of a GUI associated with a query object generator tool 300 to present schema information to a user to assist the user in writing SQL queries. Based on the SQL queries created by the user (which are consistent with the database schema displayed to the user), the query object generator tool 300 causes generation of source code for a query object 308. Goldberg, 6:56-63. The generator tool of Goldberg receives query strings and parameter information from a user through the GUI. Goldberg, 8:65-67. However, displaying schema information pertaining to a database does not constitute receiving user selection pertaining to environment information of a target database system *to extract*. Receiving query strings and parameter information from the user also does not constitute receiving user selection pertaining to environment information of a target database system *to extract*.

The Office Action stated that the GUI of Goldberg "indirectly receives the user selection about information from the database 512 to allow the user to formulate a query and the [sic] test the query through generator tool 500." 3/24/2004 Office Action at 1. This statement is rather vague, and in any event, does not provide any support for the

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premise that Goldberg teaches the receiving of user selection through a user interface pertaining to environment information of a target database system *to extract*. As noted above, the GUI of Goldberg receives query strings and parameter information—not user selection pertaining to environment information of a target database system to extract.

There is absolutely no suggestion whatsoever in Goldberg of receiving user selection pertaining to environment information of a target database system to extract. Therefore, on at least this basis alone, Goldberg does not teach or suggest the subject matter of claim 1.

Claim 1 further recites receiving, by the test system, the environment information *extracted based on user selection* from the target database system, where the test system is separate from the target database system. The Office Action conceded that Goldberg does not disclose a test system that is separate from a target database system, as recited in claim 1. However, Applicant also notes that Goldberg also fails to disclose or suggest receiving, by the test system, environment information extracted based on user selection from the target database system. Note, that the database schema information presented by the query object generator tool of Goldberg to a user does *not* constitute environment information *extracted based on user selection*. The schema information is presented to the user to enable the user to write SQL queries that are then submitted to the query object generator tool for the purpose of generating query objects.

There is no suggestion whatsoever in Goldberg of receiving environment information extracted based on user selection from a target database system. Therefore, the obviousness rejection is defective on this further ground.

In view of the foregoing, it is respectfully submitted that a *prima facie* case of obviousness has not been established with respect to claim 1.

Claims dependent from claim 1 are allowable for at least the same reasons as claim 1. Moreover, with respect to claim 3, Goldberg fails to teach or suggest emulating a target database system in the test system using the received environment information. The Office Action cited to column 6, lines 48-65, of Goldberg as teaching this element. The cited passage describes the query object generator tool constructing a query object, and presenting to the user database schema information. There is nothing in this cited passage to even remotely suggest *emulating* the target database system using received

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environment information. Applicant does note, that Goldberg refers to generating test objects used with a test framework to generate a test GUI that can display and run queries in a query object. Goldberg, 6:66-7:5. However, the test framework described in Goldberg is used to generate a customized GUI to allow a user to view and manipulate a query object. The test framework "consists of" a test driver class that works as an application or a JAVA applet, a TestQOFrame class to generate a GUI window, and a RunQuery class to set up and run a query under control of buttons created on the test GUI display. Goldberg, 12:54-13:17. Thus, the test framework referred to in Goldberg enables the generation of a customized GUI to enable access and testing of a query object. However, creating this test framework does not constitute emulating a target database system in the test system using received environment information extracted from a target database system, as recited in claim 3.

With respect to dependent claim 5, although Goldberg describes a GUI to enable a display of schema information and the receipt of SQL strings and parameter information from a user, the GUI of Goldberg does not include screens that contain graphical user interface elements selectable by a user to select, for extraction, one of environment information associated with an entire database in the target database system and environment information associated with tables referenced by a query.

With respect to dependent claim 6, Goldberg fails to disclose a user interface having user-selectable options corresponding to types of environment information to extract from the target database system. The Office Action cited to column 6, lines 40-51, as teaching this element. The cited passage refers to the GUI of the query object generator tool that enables receipt of user-entered SQL strings and parameter information, and display of database schema. However, there is absolute no indication or suggestion by Goldberg that the GUI contains user-selectable options corresponding to *types of environment information* to extract from the target database system.

With respect to dependent claim 7, the Office Action cited to column 3, lines 60-65, as teaching the presenting of options corresponding to statistics information and costs parameters. The cited column 3 passage describes generating test objects that characterize query objects for testing purposes, and using information in the test objects

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with a test framework to install and initialize a query object. No suggestion is made whatsoever in Goldberg of statistics information or cost parameters.

With respect to dependent claim 8, the Office Action cited column 10, lines 16-24, as teaching the presenting of a further option corresponding to data relating to definitions of relations. The cited column 10 passage describes a GUI main screen display that allows a user to define and exam one or more query objects, to change the definitions of query objects, and to manipulate the query objects. Definitions of query objects is not the same as definitions of *relations* as recited in claim 8.

With respect to dependent claim 9, the Office Action cited to column 12, lines 39-42, as teaching the presenting of a further option corresponding to samples associated with access modules. The column 12 passage refers to a code generator object that generates interface code to allow a client to access the object and code which implements the object for a specific DBMS and transactional model. This does not constitute samples associated with access modules.

Dependent claim 11 recites presenting a user-selectable element that when activated enables editing of environment information. The Office Action cited to column 6, lines 44-47, and column 9, lines 37-40, as teaching this element. The cited column 6 passage refers to the generator tool generating components of a query object and components of a database schema access object which allows the database schema to be displayed and provision of test objects which test the query. The cited column 9 passage relates to menu options such as "New," "Generate," "Add," and so forth. Neither passage even remotely suggests providing a user-selectable element that when activated enables editing of the environment information. Note that the Office Action has equated the schema information disclosed in Goldberg with environment information. There simply is not suggestion anywhere of providing a user the ability to edit the schema information in Goldberg.

Dependent claim 32 recites presenting a screen containing graphical user interface elements selectable by a user to select, for extraction, environment information associated with *tables referenced by a query*. The Office Action cited column 8, lines 40-50, of Goldberg as teaching this element. The cited column 8 passage describes the generator tool receiving information about a database to allow a user to formulate a query and test

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the query. The cited passage also states that the generator tool can extract information from the database using a database schema access object 518. Nowhere within the cited passage is there any suggestion of presenting a screen containing graphical user interface elements selectable by a user to select for extraction environment information associated with tables referenced by a query.

Dependent claim 33 recites that receiving the environment information comprises receiving at least one of the following information: number of nodes in the target database system, number of processors per node, statistics, and random samples pertaining to data demographics of data stored in the target database system. The Office Action cited column 6, lines 50-65, and column 8, lines 40-51, as disclosing this element. The cited column 6 passage refers to the query object generator tool using a database schema access object for obtaining database schema from a database, and presenting the schema information to a user. The cited column 8 passage talks about the generator tool extracting information using the database schema access object and retrieving the schema. However, neither passage even remotely suggests receiving environment information comprising at least one of the elements recited in claim 33.

Dependent claim 34 further recites emulating the target database system based on environment information. As described above, Goldberg does not teach or suggest emulating the target database system based on environment information (*see* discussion of claim 3 above). Dependent claim 35 recites generating an execution plan for a query based on an emulated database environment created by emulating the target database system. The Office Action cited to column 7, lines 23-39, of Goldberg as teaching this element. The cited column 7 passage describes the CORBA architecture that enables a client to communicate with a server by means of an object request broker. There is absolutely no indication in this passage of generating an execution plan for a query, much less generating an execution plan for a query based on emulated database environment.

Dependent claim 36 further recites visually displaying steps of the generated execution plan in the user interface. The Office Action cited to column 8, lines 34-40, as teaching this element. The cited column 8 passage refers to a GUI to enable a user to operate interactively with the generator tool. There is absolutely no suggestion or hint that the GUI of Goldberg displays steps of an execution plan generated for a query based

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on an emulated database environment that was created by emulating the target database system.

Independent claim 14 is allowable over Goldberg for reasons similar to those as for claim 1. Specifically, there is no disclosure or suggestion in Goldberg of a user interface that has user-selectable elements to indicate environment information *to export* from a target database system separate from the first system.

Claims dependent from claim 14 are allowable for at least the same reasons as for claim 14. Moreover, dependent claims 17 and 18 are allowable for reasons similar to those as for claim 5 (discussed above). Dependent claim 21 recites a query selection element in a screen to enable selection of one or more queries from a query capture database. The Office Action cited to column 6, lines 38-65, as disclosing this element. The cited column 6 passage describes a GUI to display schema information and to receive user SQL strings. There is absolutely no indication whatsoever of a query selection element to enable selection of one or more queries from a *query capture database*.

With respect to dependent claim 22, the cited column 6, lines 1-6, passage of Goldberg does not disclose user-selectable elements indicating one or more *types* of environment information to export. The cited column 6 passage refers to query objects that translate client requests into appropriate DBMS queries. However, there is absolutely no indication whatsoever in the cited passage of user-selectable elements to indicate one or more types of environment information to export.

With respect to dependent claim 23, the cited column 10, lines 16-24, passage of Goldberg does not even remotely suggest environment information that includes one or more of the following: statistics information, cost information, information pertaining to definition of *relations*, and samples of data demographics of access modules in the target database system.

With respect to dependent claim 24, there is no suggestion whatsoever in Goldberg of an element to enable editing of environment information. Note that Goldberg describes the ability to display schema information, not to edit the schema information.

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With respect to dependent claim 25, Goldberg makes absolutely no mention of another element to undo editing of the environment information.

With respect to dependent claim 38, there is no suggestion whatsoever in Goldberg of emulating a target database system based on environment information. Goldberg also does not teach or suggest generating an execution plan in the emulated database environment (claim 39), or visually displaying the execution plan in the display (claim 40).

Independent claim 28 is allowable for at least the same reasons as for claim 1, discussed above. Specifically, Goldberg does not teach or suggest receiving user selection made in a user interface indicating environment information to extract from a target database system separate from the first system, and receiving the environment information extracted based on the user selection from the target database system.

Claims dependent from claim 28 are allowable for at least the same reasons as for claim 28. Moreover, with respect to the dependent claims, Goldberg does not teach or suggest receiving activation of user-selectable elements to select *types of environment information* to extract (claim 31), causing a first system to emulate the target database system based on the environment information (claim 43), receiving environment information comprising at least one of a number of nodes in the target database system, number of processors per node, statistics, and random samples pertaining to data demographics of data stored in the target database system (claim 44), emulating the target database system based on environment information (claim 45), generating an execution plan for a query based on an emulated database environment created by emulating the target database system (claim 46), or displaying steps of the query execution plan in the user interface (claim 47).

In view of the foregoing, all claims are in condition for allowance. Withdrawal of the final rejections is respectfully requested.

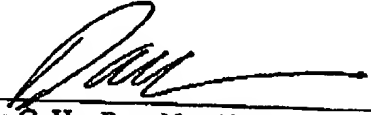
The Office Action on page 9 indicated that Application No. 09/608,977 "would be a 102(e) rejection for a publication." Note that the present application is a continuation-in-part of 09/608,977--therefore, the '977 application cannot be 102(e) art against the present application.

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The Commissioner is authorized to charge any additional fees, including extension of time fees, and/or credit any overpayment to Deposit Account No. 50-1673 (9749).

Respectfully submitted,

Date: May 24, 2004


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